

Lithium-ion Battery Books

What is the Handbook of lithium-ion battery pack design?

The Handbook of Lithium-Ion Battery Pack Design: Chemistry, Components, Types and Terminology offers to the reader a clear and concise explanation of how Li-ion batteries are designed from the perspective of a manager, sales person, product manager or entry level engineer who is not already an expert in Li-ion battery design.

What are the components of a lithium ion battery?

This chapter firstly describes the early technological innovations and then introduces and discusses the latest technology and research on the major battery components, the cathode, anode, electrolyte, and separator. Select 2 - Past, Present and Future of Lithium-Ion Batteries: Can New Technologies Open up New Horizons?

What is a lithium-ion battery?

Lithium-Ion Batteries features an in-depth description of different lithium-ion applications, including important features such as safety and reliability. This title acquaints readers with the numerous and often consumer-oriented applications of this widespread battery type.

What is included in a lithium ion battery course?

It includes an introductory overview of lithium-ion batteries, detailed examinations of lithium-oxygen and redox flow batteries, practical discussions on aqueous, biodegradable, and flexible batteries, and comprehensive assessments of dual-ion, aluminum ion, and zinc-oxygen batteries.

Are lithium ion batteries everywhere today?

Lithium-ion (Li-ion) batteries are everywhere today. introduces the topic of Li-ion batteries and Li-ion battery design to the reader and outlines the flow of the book with the intention of offering insights into the technology, the processes, and the applications for advanced batteries.

Are lithium-ion batteries safe?

Lithium-ion batteries operate at about the same temperature range that humans are comfortable at. Both high and low temperatures can cause reduced performance, and high temperatures can create safety issues. Ensuring the life and safety of the lithium-ion battery system is one of the jobs of the thermal management system.

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The book focuses on the solid-state physics, chemistry and electrochemistry that are needed to grasp the technology of and research on high-power Lithium batteries. After an exposition of fundamentals of lithium batteries, it includes ...

This is the first machine-generated scientific book in chemistry published by Springer Nature. Serving as an innovative prototype defining the current status of the technology, it also provides an overview about the latest trends of lithium-ion batteries research. This book explores future ways of informing researchers and professionals. State ...

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Lithium-ion batteries (LIBs), as a key part of the 2019 Nobel Prize in Chemistry, have become increasingly important in recent years, owing to their potential impact on building a more sustainable future. Compared with other batteries ...

Lithium-Ion Batteries: Fundamental Principles, Recent Trends, Nanostructured Electrode Materials, Electrolytes, Promises, Key Scientific and Technological Challenges, and Future Directions . Khadijeh Hooshyari, Khadijeh Hooshyari. Urmia University, Faculty of Chemistry, Department of Applied Chemistry, SERO Blvd, Urmia, 5756151818 Iran. Search ...

Lithium-ion batteries (LIBs), as a key part of the 2019 Nobel Prize in Chemistry, have become increasingly important in recent years, owing to their potential impact on building a more sustainable future. Compared with other batteries developed, LIBs offer high energy density, high discharge power, and a long service life. These characteristics ...

Lithium batteries are the most promising to fulfill such needs because of their intrinsic discharge voltage with relatively light weight. This volume has been conceived keeping in mind selected fundamental topics together with the characteristics of the lithium ion battery on the market.

This book contains an in-depth review of electrode materials, electrolytes and additives for LIB, as well as indicators of the future directions for continued maturation of the LIB.

Lithium-Ion Batteries features an in-depth description of different lithium-ion applications, ...

These books are covering lithium-ion batteries, solid-state battery advancements, battery management systems, recycling and sustainability, energy density improvements, safety and performance optimization and emerging battery chemistries.

These books are covering lithium-ion batteries, solid-state battery ...

Electrolytes for Lithium and Lithium-Ion Batteries (Modern Aspects of Electrochemistry, 58) Part of: Modern

Lithium-ion Battery Books

Aspects of Electrochemistry (47 books) | by T. Richard Jow, Kang Xu, et al. | May 7, 2014

Lithium-ion batteries are everywhere today. This chapter introduces the topics of lithium-ion batteries and lithium-ion battery design and gives the reader an outline to the flow of the book, offering insights into the technology, processes, and applications for advanced batteries.

battery industry, I purchased pretty much every book I could find on lithium-ion batteries looking for one that gave me the basic information, which I would need to be successful. However, I found that while there were some good books on the market, they were either very technical and targeted at engineers or focused on different markets such as laptops or on different ...

The book focuses on the solid-state physics, chemistry and electrochemistry that are needed to grasp the technology of and research on high-power Lithium batteries. After an exposition of fundamentals of lithium batteries, it includes experimental techniques used to characterize electrode materials, and a comprehensive analysis of the ...

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